

BRAG2 (C-16): sc-102347

BACKGROUND

The ADP-ribosylation factor (ARF) protein family are structurally and functionally conserved members of the Ras superfamily of regulatory GTP-binding proteins. ARFs influence vesicle trafficking and signal transduction in eukaryotic cells. ARF6 plays a role in protein trafficking near the plasma membrane, including receptor recycling, cell adhesion and cell migration. ARF6 localizes with the ARF guanine nucleotide-exchange protein (GEP) BRAG2, also designated GEP100. BRAG2 is ubiquitously expressed as two isoforms, BRAG2a and BRAG2b, which can cycle between the cytoplasm and the nucleus. BRAG2, via its interaction with ARF6, is involved in the regulation of cell adhesion by controlling Integrin β 1 endocytosis and E-cadherin redistribution. BRAG2 has also been shown to bind directly to Tyr 1068/1086-phosphorylated EGFR to activate ARF6, which induces tumor invasion in MCF7 cells. Therefore, BRAG2 may contribute to the metastasis and malignancy of some breast cancer cells.

REFERENCES

1. Randazzo, P.A., Terui, T., Sturch, S. and Kahn, R.A. 1994. The amino-terminus of ADP-ribosylation factor (ARF) 1 is essential for interaction with GS and ARF GTPase-activating protein. *J. Biol. Chem.* 269: 29490-29494.
2. Amor, J.C., Harrison, D.H., Kahn, R.A. and Ringe, D. 1994. Structure of the human ADP-ribosylation factor 1 complexed with GDP. *Nature* 372: 704-708.
3. Erickson, J.W., Zhang, C., Khan, R.A., Evans, T., and Cerione, R.A. 1996. Mammalian Cdc42 is a brefeldin A-sensitive component of the Golgi apparatus. *J. Biol. Chem.* 271: 26850-26854.
4. Dunphy, J.L., Moravec, R., Ly, K., Lasell, T.K., Melancon, P. and Casanova, J.E. 2006. The ARF6 GEF GEP100/BRAG2 regulates cell adhesion by controlling endocytosis of β 1 Integrins. *Curr. Biol.* 16: 315-320.
5. Hiroi, T., Someya, A., Thompson, W., Moss, J. and Vaughan, M. 2006. GEP100/BRAG2: activator of ADP-ribosylation factor 6 for regulation of cell adhesion and Actin cytoskeleton via E-cadherin and α -catenin. *Proc. Natl. Acad. Sci. USA* 103: 10672-10677.
6. Dunphy, J.L., Ye, K. and Casanova, J.E. 2007. Nuclear functions of the ARF guanine nucleotide exchange factor BRAG2. *Traffic* 8: 661-672.
7. Pajcini, K.V., Pomerantz, J.H., Alkan, O., Doyonnas, R. and Blau, H.M. 2008. Myoblasts and macrophages share molecular components that contribute to cell-cell fusion. *J. Cell Biol.* 180: 1005-1019.
8. Morishige, M., Hashimoto, S., Ogawa, E., Toda, Y., Kotani, H., Hirose, M., Wei, S., Hashimoto, A., Yamada, A., Yano, H., Mazaki, Y., Kodama, H., Nio, Y., Manabe, T., Wada, H., Kobayashi, H. and Sabe, H. 2008. GEP100 links epidermal growth factor receptor signalling to ARF6 activation to induce breast cancer invasion. *Nat. Cell Biol.* 10: 85-92.

CHROMOSOMAL LOCATION

Genetic locus: IQSEC1 (human) mapping to 3p25.1; Iqsec1 (mouse) mapping to 6 D1.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

SOURCE

BRAG2 (C-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of BRAG2 of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-102347 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

BRAG2 (C-16) is recommended for detection of BRAG2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for BRAG2 siRNA (h): sc-78384, BRAG2 shRNA Plasmid (h): sc-78384-SH and BRAG2 shRNA (h) Lentiviral Particles: sc-78384-V.

Molecular Weight of BRAG2: 100 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.